Product introduction for
Cutting Plotter
FC8600 series

GRAPHTEC

Graphtec America

June 1, 2013

Product Outlines

Graphtec's Flag-ship Grit-rolling Cutter FC8600 series

The FC8600 is the successor of the Graphtec flag-ship model FC8000 series and has inherited its high performance and quality. In addition to possessing further enhanced features, improved operation, and software.

- Functionality: Improved operation and productivity during the print & cut application with the enhanced ARMS5.0
- Operation: Standard Ethernet port for network compatibility
- Software: Improved application software
  Design application software: Graphtec Studio
  Plug-in software: Cutting Master 3

Graphtec offers these two series:

Professional **FC8600 series**

Standard **CE6000 series**

Product line-up

Flagship Grit-rolling cutter

High quality & performance

Enhanced functions

Ease of use

Includes enhanced software

610 m (24 inches)

FC8600-60

$3795.00

762 mm (30 inches)

FC8600-75

$4795.00

1067 mm (42 inches)

FC8600-100

$5895.00

1372 mm (54 inches)

FC8600-130

$6995.00

1626 mm (64 inches)

FC8600-160

$7995.00

Advantage

Flagship Grit-rolling cutter

Ease of use & best precision Grit-rolling cutter

- Reliable media feed system and highest cutting force for supporting a variety of media
- Fastest cutting speed in its class for supporting high productivity
- Best in class reliable long-length tracking that supports 50ft (15m) tracking
- Ethernet interface (10BASE-T, 100BASE-TX) is standard f network support
- Large LCD (3-inch) screen

Enhanced functions & new software

- Enhanced ARMS (shorter mark detection time, expanded cutting area) for increasing productivity
- Supports copy feature with RMS for improving productivity
- Auto-paneling for improving long-length cutting
- New design application software: Graphtec Studio

- New plug-in software for Adobe Illustrator & CorelDRAW: Cutting Master 3

Comparison (FC8600 vs FC8000/CE6000)

Function			FC8600 series	FC8000 series	CE6000 series
Specification	Cutting force		600gf	600gf	450/450/300 gf*
	Cutting speed		58 ips (1485mm/s)	58 ips (1485mm/s)	40/35/24 ips (1000/900/600 mm/s)*
	Acceleration		4G	4G	2.2G
	Tracking (Using basket)		50 ft (15m)	50 ft (15m)	15 ft (5m)
	Interface		USB2.0, RS-232C and Ethernet	USB2.0 and RS-232C (Option: Ethernet)	USB2.0 and RS-232C
Feature	Perforation cutting	Menu setting	Yes (with new method)	Yes (with old method)	Yes (with new method)
		Command	Supported	No	Supported
	Copy		Supported with ARMS	Supported without ARMS	Supported with ARMS
	Auto-paneling		Supported in STD	Supported in special mode	Supported
ARMS	Cutting area		Limited by the cutting area	Within the mark area	Limited by the cutting area
	Method of scanning mark		Spiral movement in diamond area	Diagonal movement in the triangle area	Spiral movement in diamond area
	Search sequence of marks		New method (ARMS5.0)	Old method (ARMS4.0)	New method (ARMS5.0)
	Improve reading accuracy		Yes (with new algorithm)	N/A (with old algorithm)	Yes (with new algorithm)
Software	Design application		Graphtec Studio	No included	Graphtec Studio
	Plug-in for AI & CorelDRAW		Cutting Master 3	Cutting Master 2	Cutting Master 3

* CE6000-120/60/40 respectively

Target market

- Grit-rolling Cutter FC8000 series –

Expanding into new markets by constantly innovating our products

Vehicle market

Vehicle Graphics
Window tint film
Paint Protection film
Decorative

Screen Printing

Decals
Masking Film
Print & Cut Application
Heat Transfer for
T-shirts and Sportswear

Sign & Graphics

Vinyl Sign
Banner
Print & Cut Application
Traffic Sign with
High-intensity reflective film

Other market

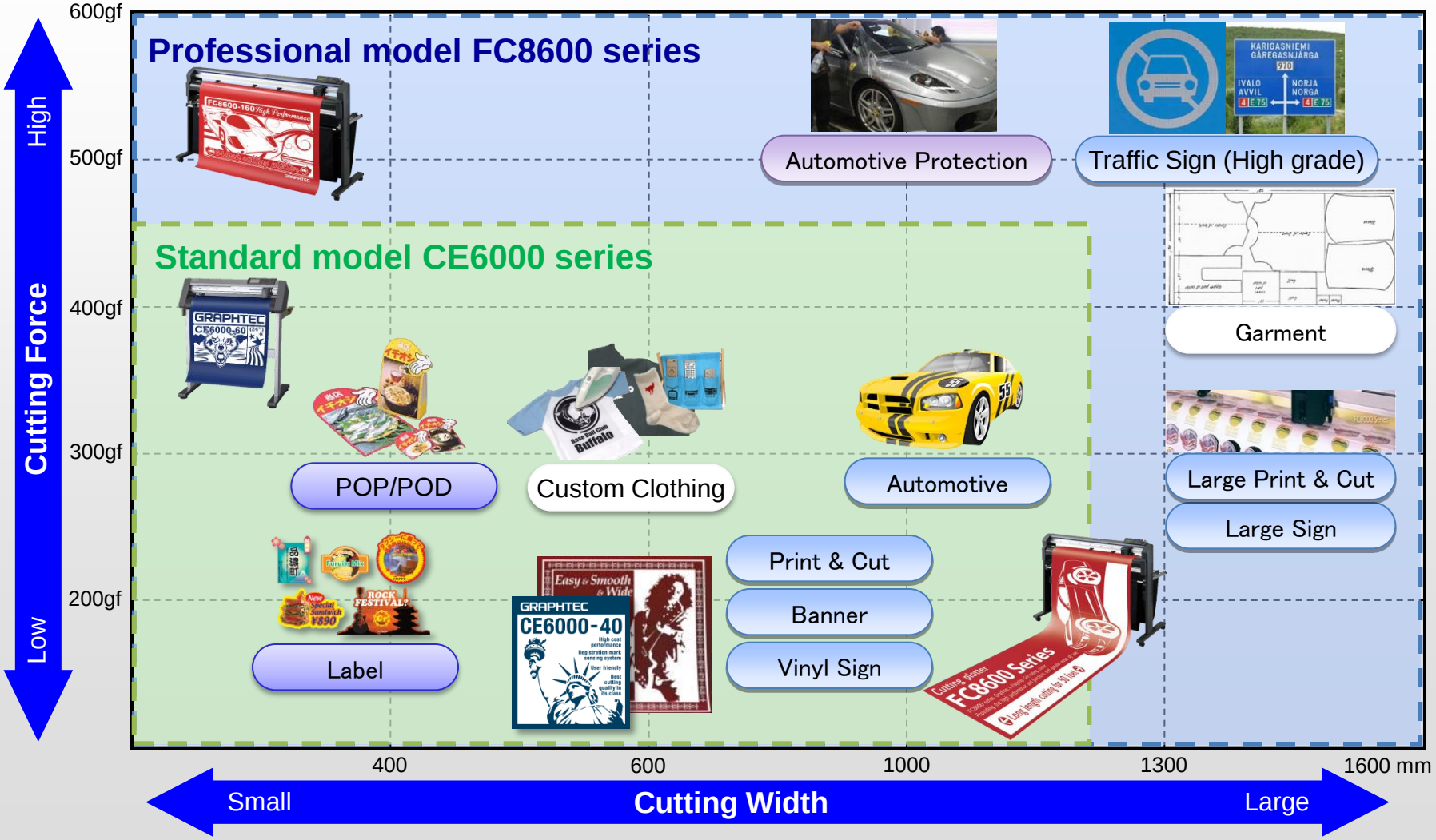
Counter top
Monument with
Sandblast resist rubber

Garment market

Pattern making
Marker plotting
Embroidery with pouncing

Applications in Grit-rolling cutter

FC8600 Target Market & Applications:



FC8600 series New functions

Superior advanced specifications for improving productivity and quality

1. **Enhanced ARMS5.0**
   - ARMS COPY — Supports the copy function in Print & Cut application
   - Expanded cutting area area — Supports cutting part of a design outside the area enclosed by registration marks
   - Faster detection time — Supports new algorithm for faster searching
2. **Features for higher productivity and quality**
   - Perforation cutting — Supports new method for improving productivity
   - Auto-paneling — Supports new function for improving quality of long-length job
   - LAN interface — Supports Ethernet for network compatibility
3. **New software with enhanced features and usability**
   - Cutting Master 3 — Plug-in software for Adobe Illustrator & CorelDRAW
   - Graphtec Studio — Design application software
4. **Other enhanced functions**

- Changing displayed error messages:
  Improved wording and explanation of error messages so that they are easier to understand.

ARMS 5.0 *Advanced Registration Mark Sensing System* (1)

Enhanced functions

Enhanced ARMS to 5th generation

The ARMS5.0 is the 5th generation advanced registration mark sensing system. It improves quality and productivity in the Print & Cut application.

Copy with ARMS *New*

Supports ARMS in thencopy function to improve the work efficiency of Print & Cut.

Expanded cutting area *New*

Expands the cutting area when using the ARMS for higher production efficiency.

Reduced detection time *New*

Enhances the sequence of mark searching for detecting all marks faster.

Auto-detection of mark position *New*

Supports new detection method with expanded search area for more reliable mark detection.

4 point axis alignment

Reading 4 point registration marks for accurate alignment and dynamic re-scaling independently in both X- and Y-axis. The 2- and 3-point axis alignment are also available.

Segment area compensation

Reading position of the middle marks for more accurate alignment in long length jobs.

Multiple mark compensation

Reading marks on each copy sequentially for higher productivity.

Auto mark sensor sensitivity adjustment

Mark sensor sensitivity is automatically adjusted for supporting a variety of media.

Software control

Simplifies operation by controlling ARMS from the software.

ARMS 5.0 *Advanced Registration Mark Sensing System* (2)

Enhanced functions

Copy with ARMS

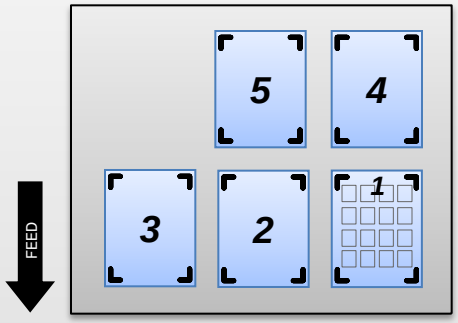
New

Greatly enhanced copy function. It supports cutting the data including the ARMS control command for processing multiple copies without a PC.

This improves the work efficiency of Print & Cut.

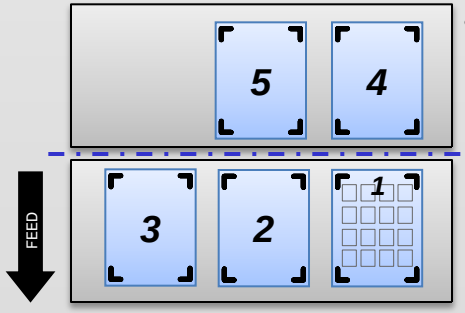
Print & Cut in Roll media

- The action of scanning the registration marks and contour cutting is repeated for making multiple copies of the downloaded data.



- The spacing between patterns can be specified.
- Copies are made in a row. It automatically searches next row.

Enabling cross-cut

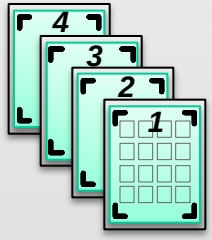


- The cross-cut is executed automatically after copies are made in each row.

<cross-cut is executed>

Print & Cut in Sheet media

- The action of scanning the registration marks and contour cutting is repeated for making multiple copies of the downloaded data after the media is reloaded.



Just reloading the sheet media for making copies

Benchmark conditions

Page size:	*A4 size*
Copy q'ty:	*100 copies*
Speed:	*30cm/s*

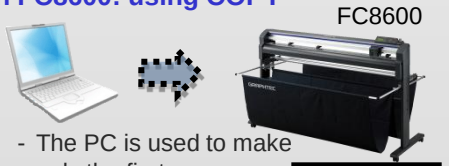
In conventional model:

The PC is allocated to the job to make 100 copies.

Takes ***110 min*** for job

35% shorter

In FC8600: using COPY



- The PC is used to make only the first copy.
- The copies can be made without the PC.
- It is just required to reload the media for copy.

Takes ***70 min*** for job

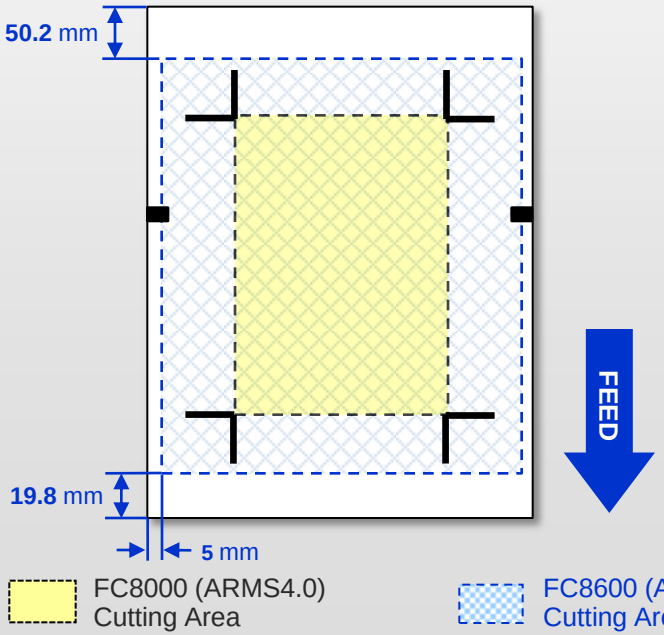
ARMS 5.0 *Advanced Registration Mark Sensing System* (3)

Enhanced functions

Expanded cutting area

New

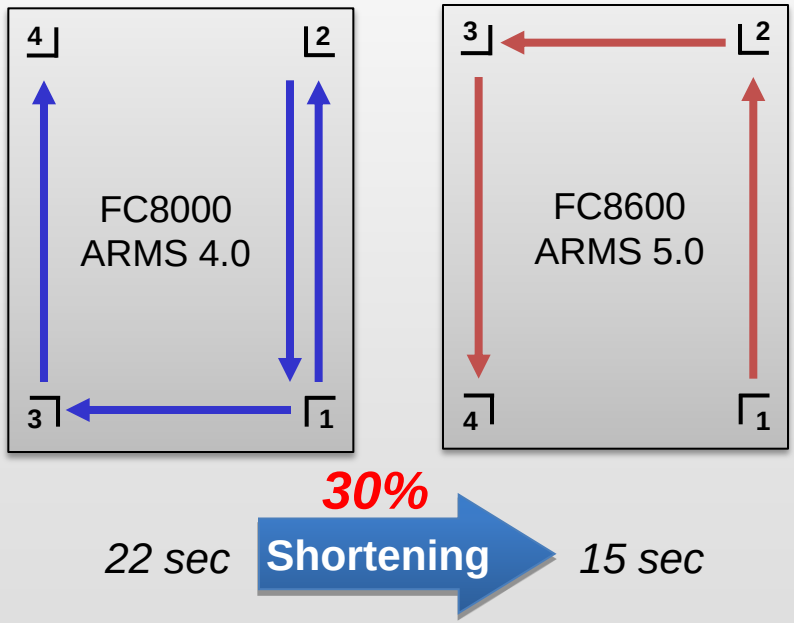
When the ARMS is used, the cutting area is expanded outside of the area enclosed by the registration marks.
In previous model, the cutting area is limited to the inside of the area enclosed by the marks.



Reduce detection time

New

Sequence of scanning the mark is changed for significantly reducing the mark detection time. Mark detection can be reduced 30% from the conventional model.



Benchmark conditions

Page size:	*35.4" x 23.6" (900mm x 600mm)*
Mark Space:	*29.5" x 19.7" (750mm x 500mm)*
Speed:	*12 ips (30cm/s)*

ARMS 5.0 *Advanced Registration Mark Sensing System* (4)

Enhanced functions

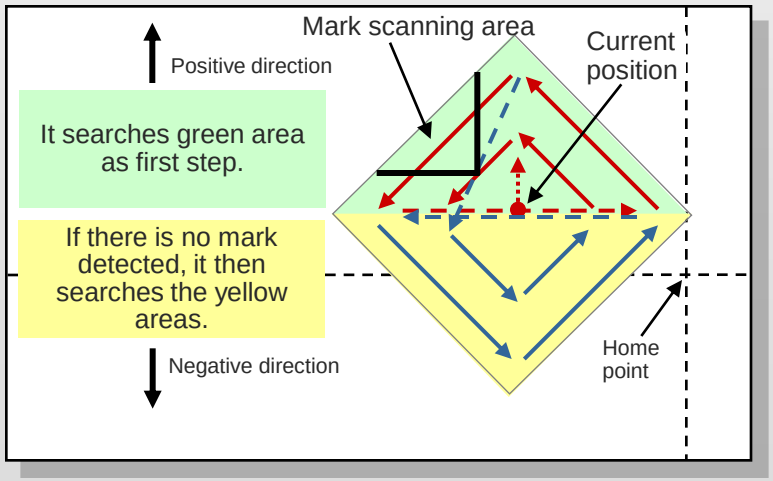
Auto-detection of mark

New

The first registration mark is automatically detected within a wide search area; this eliminates the need to manually move the sensor near the registration mark position.

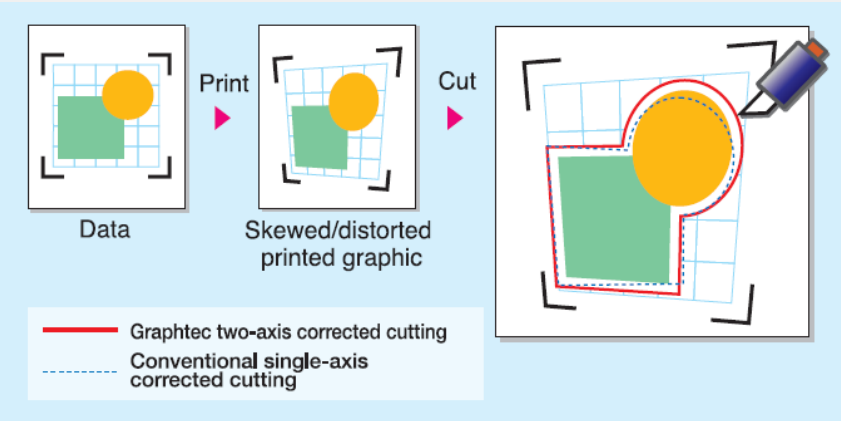
The mark searching area is expanded to the area indicated by the triangle shown below. In the previous model, the searching area was less efficient.

The new method improves the operation of the registration mark searching.


Mark scanning area
Current position
Positive direction
It searches green area as first step.
If there is no mark detected, it then searches the yellow areas.
Negative direction
Home point

4-point axis alignment

This feature compensates for any direction on the X-axis and Y-axis with Graphtec's proprietary technology. This leads to more accurate registration and improves the reliability and quality of Print & Cut.



ARMS 5.0 *Advanced Registration Mark Sensing System* (5)

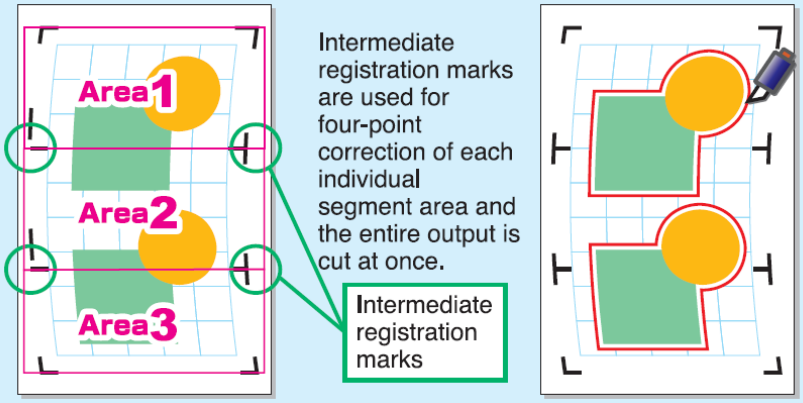
Enhanced functions

Segment area compensation

The 4-point axis alignment is performed for each segmented area as shown below.

It provides high-precision alignment in the Print & Cut of long-lengths.

* This function is available for Cutting Master 2, Cutting Master 3, or Graphtec Studio software.

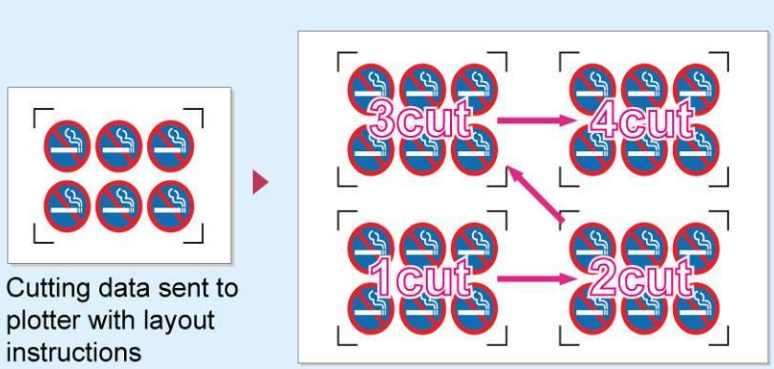

Area1
Area2
Area3
Intermediate registration marks are used for four-point correction of each individual segment area and the entire output is cut at once.
Intermediate registration marks

Multiple marks compensation

When the design is printed using the matrix copy function on the RIP or printer, the action of scanning marks and contour cutting is performed for each copy.

It can significantly improve productivity for Print & Cut.

* This function is available for Cutting Master 2, Cutting Master 3, or Graphtec Studio software.



The object is printed in pagination printing condition. Scanning marks and contour cutting are executed in each copy sequentially.

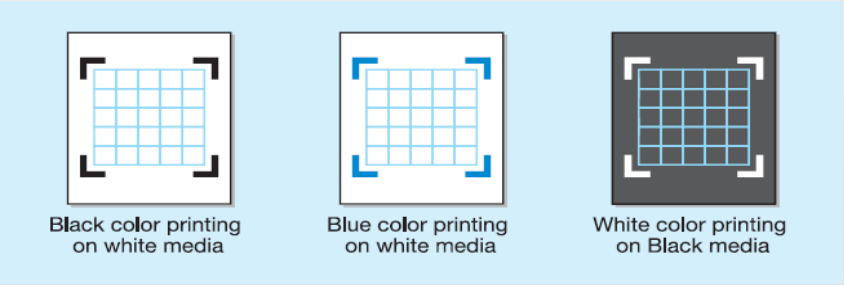
ARMS 5.0 *Advanced Registration Mark Sensing System* (6)

Enhanced functions

Auto sensitivity adjustment

The sensitivity of the registration mark sensor is automatically set by measuring the reflective level of the mark and the background of the actual media. The mark can be detected when the color of mark has a reasonable contrast against the background.

For example, a black or blue mark on a white background can be detected. A white mark can also be detected on a colored background.



Software support

The special command for controlling the registration mark sensing system (ARMS) is also supported. The setting parameter for ARMS can be set from the PC using the software.

The following Graphtec software supports the ARMS control command.

- Cutting Master 2
- Cutting Master 3
- Graphtec Studio
- Plotter Controller

Feature for higher productivity & quality (1)

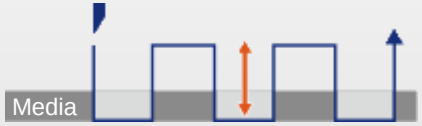
Enhanced functions

Enhanced Perforation Cutting

A New method of perforation cutting function is used. The perforation cutting is performed by controlling the cutting force instead of blade up-and-down movement.

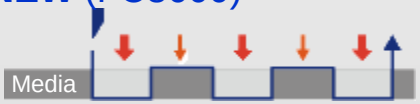
This increases throughput and is perfect for cutting separation lines for tearing out labels, fold lines for POP signs, and others.

Conventional method



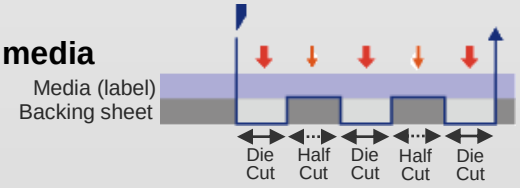
Cuts by the slower up-and-down movement of the blade.

NEW (FC8600)

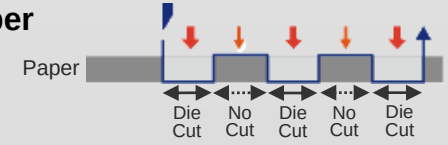


Cuts by controlling the force, much faster!

Self-adhesive media (Sign, Label)



Printed media, paper (POP)

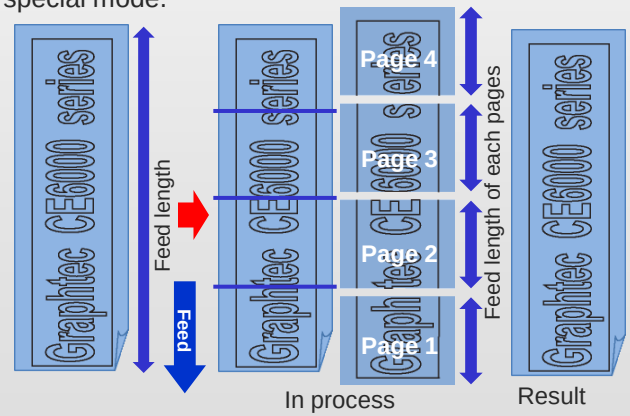


Automatic paneling

Auto-paneling is a new feature that automatically splits long-length jobs into smaller pages that are cut sequentially but without any gaps. The result is a seamless long-length finished job. The media movement is limited to the smaller pages being cut.

It improves accuracy and tracking.

* This function is available for all of users in the FC8600. In the FC8000, this function was available when the FC8000 was started in special mode.



Normal cutting **Auto Paneling cutting**

Note: when auto-paneling is enabled, some functions are not supported.
- ARMS, • Copy, • Setting origin,
- Initial feed, • Setting cut area

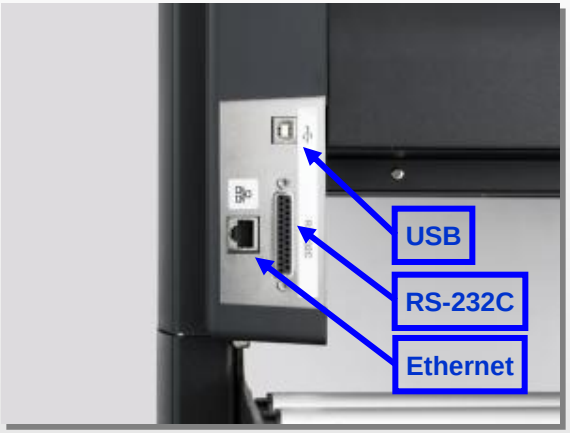
Feature for higher productivity & quality (2)

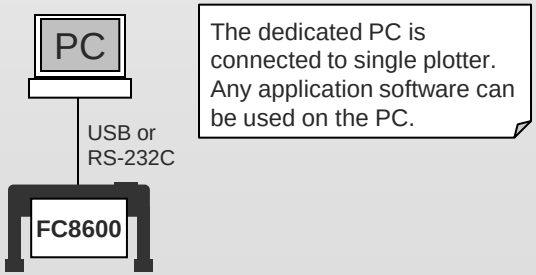
Enhanced functions

Supports 3 types interfaces

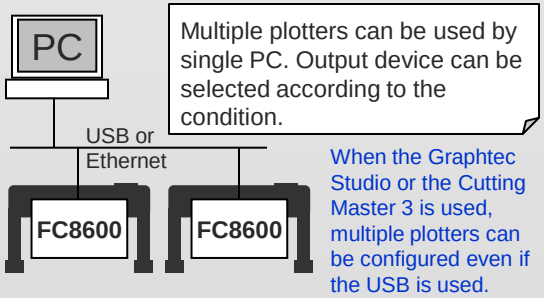
The Ethernet for the LAN is built in as standard, along with USB2.0 and RS-232C interfaces.

- **USB2.0:**
  PC standard interface.
- **RS-232C:**
  This is a standard interface for older PC's , it is able to use CAD software that supports only legacy interface.
- **Ethernet:**
  PC standard network interface. Multiple plotters can be used by multiple PCs with network connection.

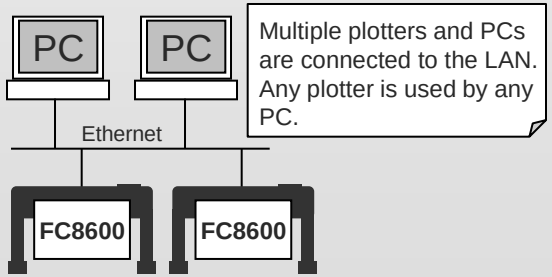




Single PC to single plotter


PC
USB or
Ethernet
FC8600
FC8600
Multiple plotters can be used by single PC. Output device can be selected according to the condition.
When the Graphtec Studio or the Cutting Master 3 is used, multiple plotters can be configured even if the USB is used.

Sharing 1 PC by multiple plotters



Sharing multiple PCs by multiple plotters

New software with enhanced features

Software

Improved software is included

New Cutting Master 3 : Plug-in software for Adobe Illustrator & CorelDRAW

New Graphtec Studio : Cutting Design Application Software

Model	Description	Win 8		Win 7		Vista		XP		Mac OS X
		64bit	32bit	64bit	32bit	64bit	32bit	64bit	32bit	
OPS662	**Windows Driver** (Attached as standard accessory)	**Yes**	**Yes**	**Yes**	**Yes**	**Yes**	**Yes**	**Yes**	**Yes**	N/A
OPS676	**Plotter Controller** (Attached as standard accessory)	**Yes**	**Yes**	**Yes**	**Yes**	**Yes**	**Yes**	**Yes**	**Yes**	N/A
OPS678	**Cutting Master 3** (Attached as accessory) Plug-in software for Illustrator and Corel DRAW Illustrator CS4, CS5, CS6 CorelDRAW X4, X5, X6	**Yes**	**Yes**	**Yes**	**Yes**	**Yes**	**Yes**	**Yes**	**Yes**	**Yes** (10.5 - 10.8)
OPS679	**Graphtec Studio** (Attached as accessory) Design application software	**Yes**	**Yes**	**Yes**	**Yes**	**Yes**	**Yes**	**Yes**	**Yes**	**Yes** (10.5 - 10.8)
OPS668	**Cutting Master 2** (Download from website) Plug-in software for Illustrator and Corel DRAW Illustrator 8, 9, CS, CS2, CS3, CS4, CS5, CS6 CorelDRAW 10, 11, 12, X3, X4, X5, X6	**Yes**	**Yes**	**Yes**	**Yes**	**Yes**	**Yes**	**Yes**	**Yes**	**Yes** (10.2 - 10.8)

Cutting Master 3 *Plug-in software* (1)

Software

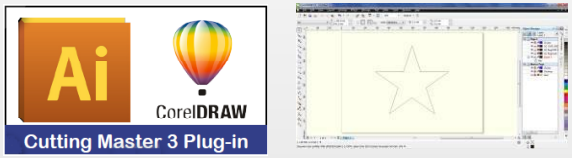
About the Cutting Master 3

The Cutting Master 3 is the plug-in software for the Adobe Illustrator and CorelDRAW.

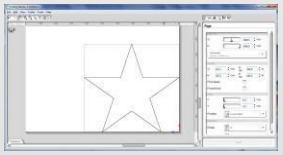
This plug-in software sends the cutting data created by the Illustrator or CorelDRAW to the cutting plotter. It can also be used to control the cutting plotter.
It is easy to use and enables you to get the best performance from your cutting plotter.

Work flow

(1)
(2)



(3)



(4)

(1) Design is created using the supported version of Adobe Illustrator or the CorelDRAW.

(2) Registration mark for alignment of contour is created using the function of the Cutting Master 3 if it is necessary.

(3) Design data is transferred to the Cutting Master 3 using the plug-in software icon on the Adobe Illustrator or CorelDRAW. Cutting Master 3 will open in another window with transferred data.

(4) Cutting data is transferred to the cutting plotter. The cutting plotter starts the job.

Cutting Master 3 *Plug-in software* (2)

Software

Supported application software and OS

Software	Version	Windows OS				Mac OS			
		8	7	Vista	XP	10.8	10.7	10.6	10.5
Adobe Illustrator	CS4	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
	CS5	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
	CS6	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
CorelDRAW	X4	Yes	Yes	Yes	Yes	N/A	N/A	N/A	N/A
	X5	Yes	Yes	Yes	Yes	N/A	N/A	N/A	N/A
	X6	Yes	Yes	Yes	Yes	N/A	N/A	N/A	N/A

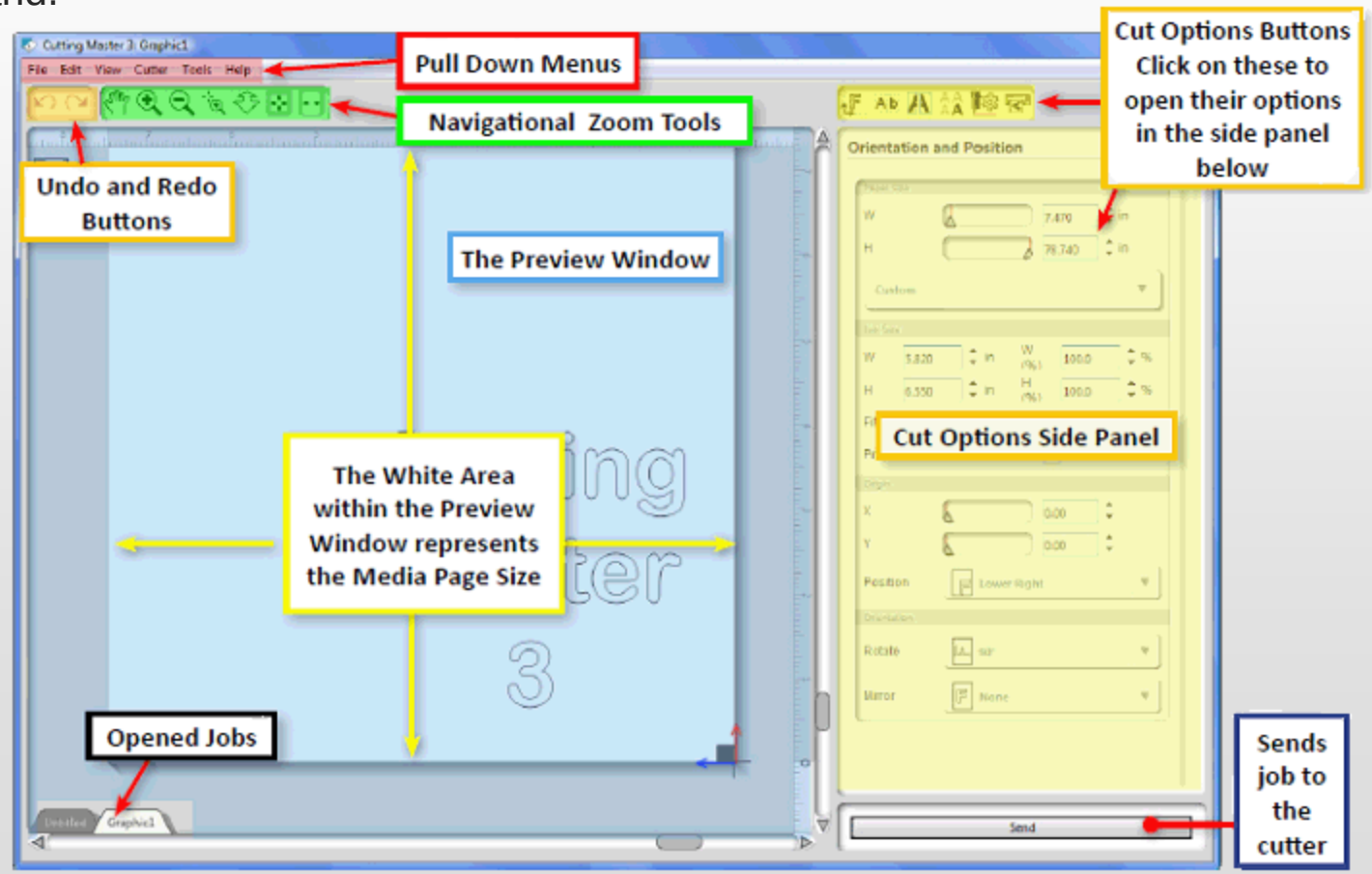
* For more information about compatibility of the OS or application software, please check the Graphtec website or contact your local Graphtec representative.

Cutting Master 3 *Plug-in software* (3)

Software

Ease-of-use

The object will be displayed in the pre-view window after the design is transferred to Cutting Master 3. The layout of screen is in a simple and straightforward as shown below. It is easy to understand.


Pull Down Menus
Navigational Zoom Tools
Undo and Redo Buttons
The Preview Window
The White Area within the Preview Window represents the Media Page Size
Opened Jobs
Cut Options Buttons Click on these to open their options in the side panel below
Cut Options Side Panel
Sends job to the cutter

Cutting Master 3 *Plug-in software* (4)

Software

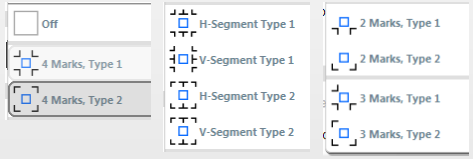
Main features (1)

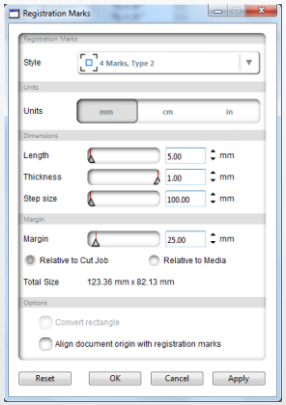
Cutting Master 3 has a variety of features such as registration marks, matrix copy, tiling, weeding line settings, tool conditions, settings of cut job, and others.

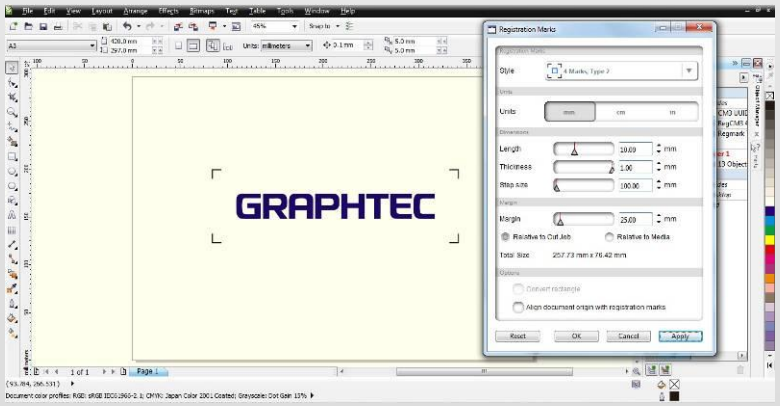
Reg. Marks

Registration marks can be added to the printing object.

The type of mark can be selected from 10 patterns. It is used for the Print & Cut application.



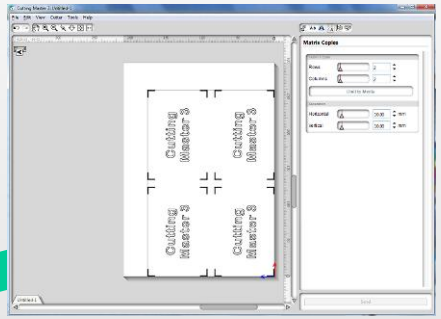




Matrix copy

It is used for creating multiple copies of the same object.
The object is copied in specified matrix condition.

When the object is in pagination printing condition, the action of reading mark and then cutting object is performed repeating in each copy.
It improves productivity of the Print and Cut application.



Original

Example, object is laid to 2 by 2.

Cutting Master 3 *Plug-in software* (5)

Software

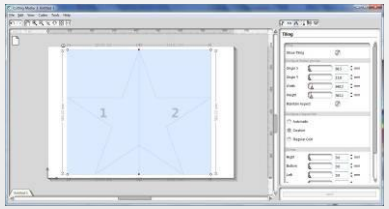
Main features (2)

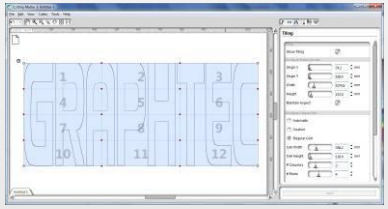
Tiling

The cutting object will be split up onto a number of smaller tiles. The split object can be cut separately.

When the cutting object is larger than the width of the media, the object can be split to the width of the media.

Multiple paneling is also supported.





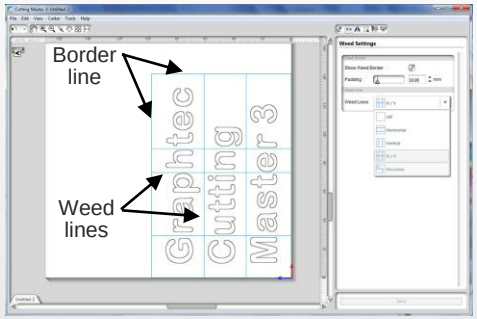
Design

Split to two for fitting to media size

Example, split to 3 x 4 for fitting to panel size

Weed border

Border line and weeding line can be added in the cutting object automatically and then it is cut. It makes easer to remove the excess material from the media.



Cut media

Without Weeding line (Remove all at once.)

With Weeding line (Remove piece by piece.)

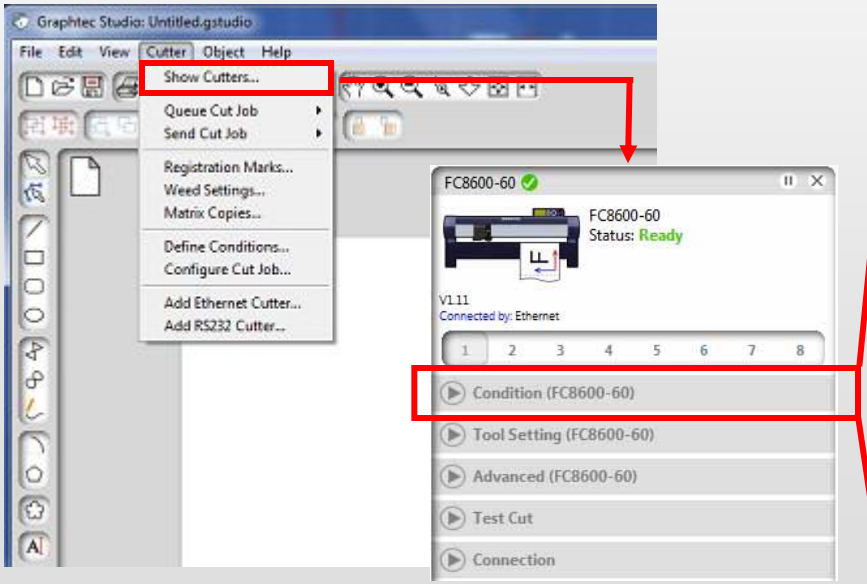
Plotter settings

Software

Cutting Master 3 *Plug-in software* (6)

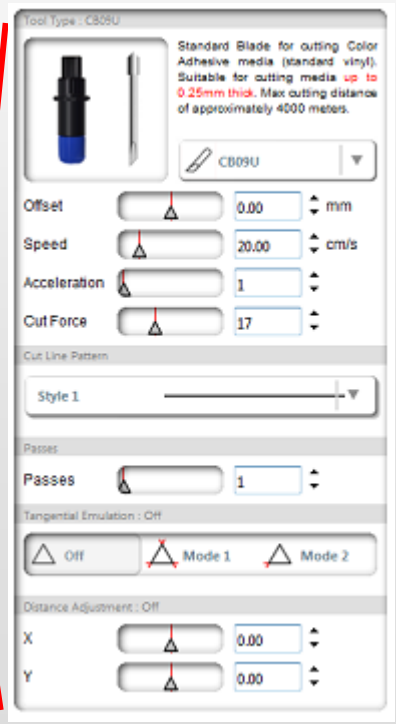
The cutting condition in the cutting plotter can be monitored and configured from the software. It can easily be sent to the cutting plotter for using to the cutting job.

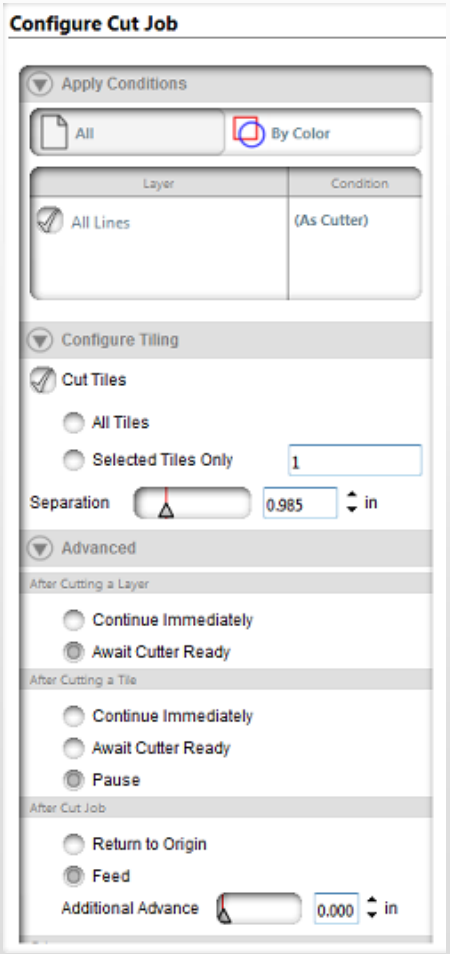
The settings of the plotter that is selected from the connected PC can easily be configured by starting with the “Show Cutters..." menu.



The available cutters are shown in the side panel.

When this item is selected, the details of the setting are displayed in the side panel.
The current settings of the plotter can be checked from the PC. The settings also can be changed.


Standard Blade for cutting Color Adhesive media (standard vinyl). Suitable for cutting media up to 0.25mm thick. Max cutting distance of approximately 4000 meters.
CB09U
Offset 0.00 mm
Speed 20.00 cm/s
Acceleration 1
Cut Force 17
Style 1
Passes 1
Off Mode 1 Mode 2
X 0.00
Y 0.00



Graphtec Studio *Cutting design software* (1) New Software

Easy-to-use software for creating and editing the cutting object

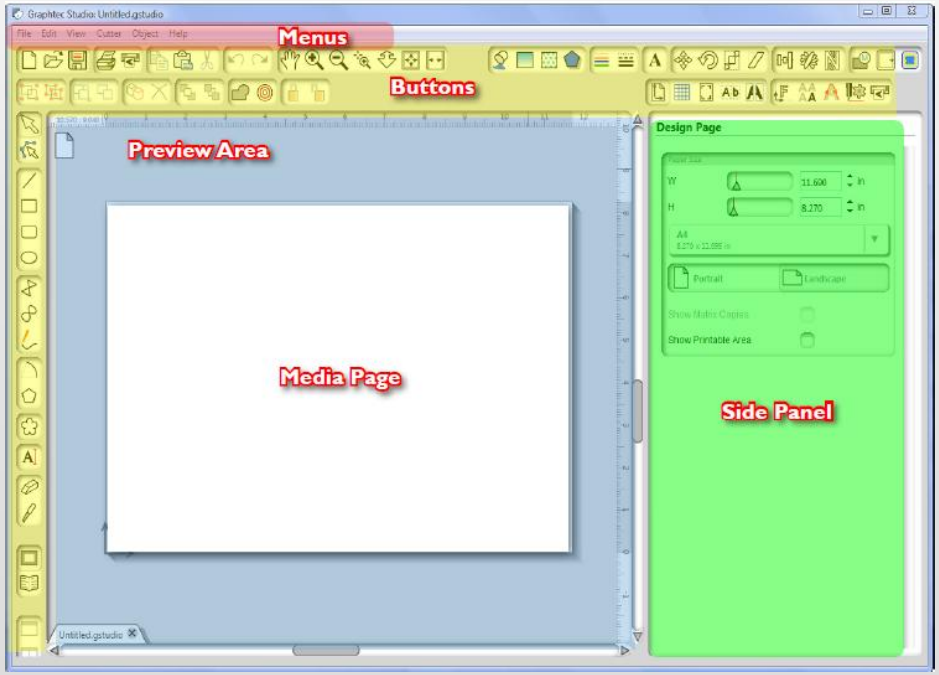
Graphtec Studio is new software that simplifies sign creation using the icons arranged around the drawing area. The software's layout has been designed to ensure ease-of-use using pull-down menus, graphical icons, a preview area, drawing area, and side panels.

Menus (Pull-down)

Available functions in Graphtec Studio are conveniently grouped by function and contained in pull-down menus.

Buttons (Tool icons)

All tool icons are displayed and grouped by function.



Preview Area

Objects are displayed during both the design phase and cutting phase.

Media page

It is the white area indicating the page size in the preview window.Objects are created and placed for editing, cutting , and printing.

Side panel

Options for the selected function are displayed in the side panel and the details of function can be set.

Graphtec Studio *Cutting design software* (2) New

Software

Easy-to-use, Icons & features

File management tools

This button group is used to perform general file management functions, such as file opening, saving, and sending the document to a printer or Graphtec cutter.

Standard editing tools

This button group is used to set basic operations such as the copy, cut, undo and redo .

Zoom tools

This group of buttons is used to zoom in and out.

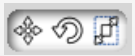
Quick editing tools

This button group is used for quick editing. There are tools for selecting/grouping images, copying/deleting images, reordering objects (forwarding an image to the foreground or sending it to the back of the other images), and locking/unlocking, etc.

Style tools

This group of buttons is used for changing the object style such as the fill, line type, and adjusting text attributes. Once a button is clicked, the tool options are displayed in the side panel.

Processing tools



This button group is used for basic functions such as the copy, cut, paste, undo, and redo.

Operating tools

This button group is used for alignment, replication and nesting. Once a button is clicked, the tool options are displayed in the side panel.

Changing shape tools

This button group is used to change a shape, offset an outline, and trace the object. Cropping, trimming, binding, and subtracting are also included in the change of shape.

Page setup tools

These two buttons are used to set the page size and grid.

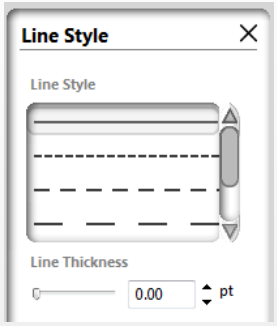
Preparation cutting tools

This button group is used for tiling, registration mark settings, weed settings, etc. They can be used to see the preview area in design mode (first 3 buttons) or change to the cutting preview mode by clicking the last five buttons.

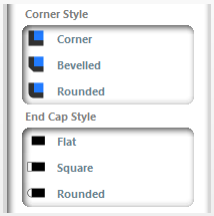
Graphtec Studio *Cutting design software* (3) New Software

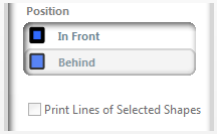
Main features for editing

Line style

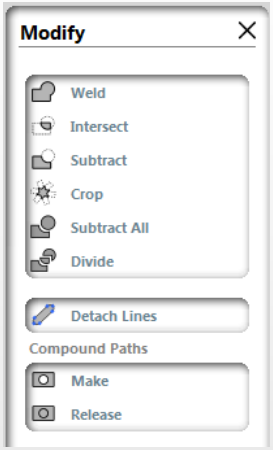


Used to set line attributes such as style, corner, end cap, and position.

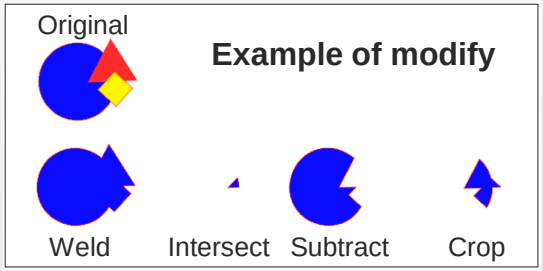




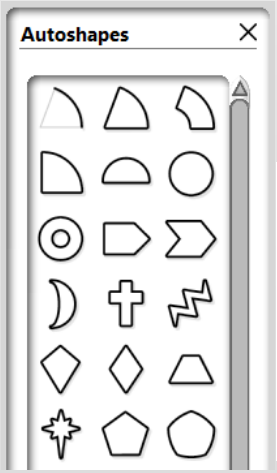
Editing function



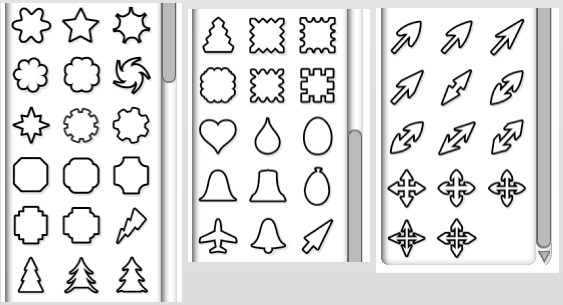
Overlapping objects can be edited using functions such as crop, join, etc.



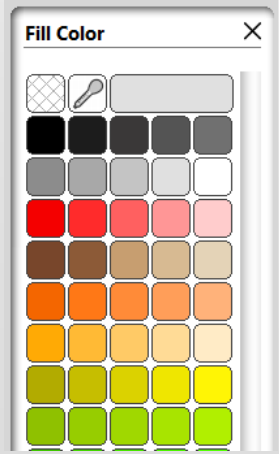
Auto-shapes



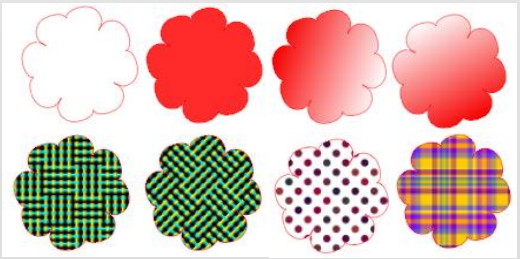
There are 68 shapes that can be edited too.



Shaded function



Colors, gradients, and patterns can be easily added to objects.



Main features for editing (2)

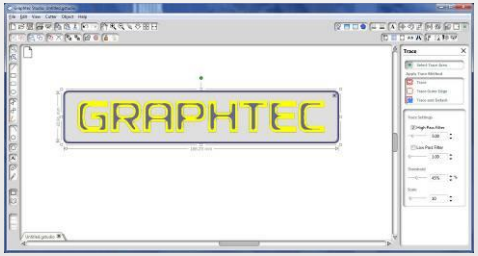
Software

Graphtec Studio *Cutting design software* (4)

Tracing

Is a way of taking objects, generally bitmaps, and making an outline of the object. Bitmaps particularly have to be traced since a cutter only understands line and vector paths, and not bitmaps which contain dots (or what is called pixels) that create the image or photo. This feature is great for converting bitmap logos to an outlined (or traced) object.

Trace option



Offset paths

This creates new lines (paths) in specified space from the reference line. Creating an Offset Path can really enhance a design. It can also be used to create a cut line for Print and Cut applications. An Offset is an outline, or inline, of a shape or object.

Offset option

It also has a variety of features such as

- registration mark creation
- tiling
- tool conditions
- matrix copy
- weed settings
- cut job setting

and others.

These functions increase productivity of cutting the job.

These are the same functions as the Cutting Master 3, please refer to the section of Cutting Master 3 for details.

Comparison (1)

Product	GRAPHTEC	Summa	Mimaki	Roland	GCC
Model Name	FC8600 series	S series	GC –FX II series	GX series	Jaguar IV series
Photo Image					
Cutting area / Loadable media width	610mm (24in.) / 770mm (30.3in.)	630mm (24.8in.) / 670mm (26.3in.)			610mm (24in.) / 770mm (30.3in.)
	762mm (30in.) / 920mm (36.2in.)	742mm (29.2in.) / 840mm (33in.)	760mm (29.9in.) / 1040mm (40.9in.)	737mm (29in.) / 915mm (36in.)	
	1067mm (42in.) / 1224mm (48.1in.)	1200mm (47.2in.) / 1300mm (51in.)		1000mm (39in.) / 1178mm (46in.)	1016mm (40in.) / 1270mm (50in.)
	1372mm (54in.) / 1529mm (60.2in.)	1350mm (53.1in.) / 1450mm (57in.)	1300mm (51.2in.) / 1580mm (62in.)	1195mm (47in.) / 1372mm (54in.)	1320mm (52in.) / 1594mm (62.8in.)
	1626mm (64in.) / 1850mm (72.8in.)	1580mm (62.2in.) / 1680mm (66in.)	1600mm (62.9in.) / 1880mm (74in.)	1575mm (62in.) / 1842mm (72.5in.)	1830mm (72in.) / 1900mm (74.8in.)
Cutting Speed	1485mm/s (58.5ips)	1414mm/s (55.6ips)	1400mm/s (55.1ips)	850mm/s @all directions (33.4ips)	1530mm/s (60.2ips)
Cutting Acceleration	4G	4G			3G
Cutting Force	600gf	400gf	400gf	350gf	600gf

Note: There is an advantage to Graphtec in the cells filled with yellow

Comparison (2)

Product	GRAPHTEC	Summa	Mimaki	Roland	GCC
Model Name	FC8600 series	S series	GC-FX II series	GX series	Jaguar IV series
Photo Image					
Control panel	3in., graphic LCD (with back light)	LCD with touch panel	16 characters x 1 line LCD	16 characters x 1 line LCD	20 characters x 2 lines LCD
Application software	Graphtec Studio	Win Plot	N/A	Cut Studio	N/A
Plug-in software	Cutting Master 3 (Illustrator, CorelDRAW)	Commercial software is sold separately	Fine Cut 8	Cut Studio plug-in	N/A
Guaranteed cutting area	15m (50ft.)	• 12m (40ft.) in width of 76 cm (30in.) or less • 4m (13ft.) in width of 76cm (30in.) over	10m (30ft.)	• 8m (26ft.) in width of 61cm (24in.) or less, • 4m (13ft.) in width of 61cm (24in.) over	10m

Note: There is an advantage to Graphtec in the cells filled with yellow

Specifications (1)

Item	FC8600-60	FC8600-75	FC8600-100	FC8600-130	FC8600-160
CPU	32-bit CPU				
Configuration	Digital Servo drive, Friction feed with Grit roller				
Max. cutting area	610mm x 50m (24.0in. x 164ft.)	762mm x 50m (30.0in. x 164ft.)	1067mm x 50m (42.0in. x 164ft.)	1372mm x 50m (54.0in. x 164ft.)	1626mm x 50m (64.0in. X 164ft.)
Cutting area of guaranteed accuracy (*1)	610mm x 15m (24.0in. x 49.2ft.)	762mm x 15m (30.0in. x 49.2ft.)	1067mm x 15m (42.0in. x 49.2ft.)	1372mm x 15m (45.0in. x 49.2ft.)	1626mm x 15m (64.0in. x 49.2ft.)
Mountable media	Min.: 50mm (2.0in.) Max.: 770mm (30.3in.)	Min. 50mm (2.0in.) Max.: 920mm (36.2in.)	Min. 50mm (2.0in.) Max.:1224mm (48.1in.)	Min.: 50mm (2.0in.) Max.:1529mm (60.1in.)	Min.: 50mm (2in.) Max.:1850mm (72.8in.)
Max. cross cut area	734mm (28.8in.)	886mm (34.8in.)	1191mm (46.8in.)	1496mm (58.8in.)	1750mm (68.8in.)
Number of push roller	2 rollers	2 rollers	3 rollers	3 rollers	4 rollers
Cutting speed	Max. 1485mm/s (58.4in./s) at 45º directions				
Axial acceleration	4G in 8 steps				
Cutting force	600gf in 48 steps				
Mechanical resolution	0.005mm				
Programmable resolution	GP-GL: 0.1 / 0.05 / 0.025 / 0.01mm, HP-GL™: 0.025mm				
Distance accuracy (*1)	Max. 0.1mm (0.004in.) or 0.1% of plotted length				
Repeatability (*1)	Max. 0.1mm (0.004in.) in plot up to 2m (78.7in.)				
Min. character size (*1)	Approx. 3mm (0.12in.) alphanumeric (varies depending on character font and the type of media)				
Number of tool	1 tool (blade, pen, or pouncing) in standard, 2 tools (blade and pen) when second pen holder option is installed				
Blade type	Supersteel (0.9mm or 1.5mm dia.)				
Pen type	Water-based fiber-tip, and oil-based ballpoint pens				
Pouncing tool type	Steel pin 1.2mm diameter, required optional pouncing tool (PPA33-TP12)				
Media type	Self-adhesive marking film (Vinyl, fluorescent, refractive, high-intensity reflective) up to 0.25mm thick., Polyester film, up to 0.25mm thick. (un guaranteed accuracy), Sandblast resist rubber up to 1mm thick., Regular paper from 0.06 to 0.13mm thick. for pouncing tool				
Light pointer	Built into the tool carriage				

Specifications (2)

Item	FC8600-60	FC8600-75	FC8600-100	FC8600-130	FC8600-160
Cross cutter	Built into the tool carriage				
Perforation cut	Supported (performed by force control)				
Interface	USB 2.0 (Full speed), RS-232C, Ethernet (10BASE-T/100BASE-TX)				
Buffer memory size	2MB				
Command sets	GP-GL, HP-GL™ (Set by the menu or command, and selects from GP-GL, HP-GL™, or Auto-detect)				
Registration mark sensing system	Scans the mark by optical sensor (ARMS5.0), Segment area and Multiple marks compensation, 4-points axis alignment, Auto mark detect				
Condition settings	Dual configuration (Save two user settings with 8 separate condition setting for each user)				
Display	Graphic type LCD (3in. size with backlight)				
Power source	100 V to 240 V AC, 50/60 Hz				
Power consumption	Max. 160VA				
Operating environment	10 to 35 ºC, 35 to 75 %R.H. (non-condensing)				
Guaranteed accuracy environment	16 to 32 ºC, 35 to 70 %R.H. (non-condensing)				
Dimensions (W x D x H) [Approx.], including stand	1128 x 715 x 1219mm (44.5 x 28.2 x 48.0in.)	1278 x 715 x 1219mm (50.4 x 28.2 x 48.0in.)	1578 x 715 x 1219mm (62.2 x 28.2 x 48.0in.)	1878 x 715 x 1219mm (74.0 x 28.2 x 48.0in.)	2138 x 715 x 1219mm (84.2 x 28.2 x 48.0in.)
Weight, including stand	Approx. 38kg (83.8lbs)	Approx. 42kg (92.6lbs)	Approx. 46kg (101.4lbs)	Approx. 54kg (119lbs)	Approx. 59kg (130lbs)
Included software (*2)	Windows driver, Plotter controller, Graphtec Studio, Cutting Master 3				
Compatible OS (*2)	Windows 8 / Windows 8 Pro, 32/64-bits edition Windows 7 (Ultimate / Enterprise / Professional / Home Premium), 32/64-bits edition Windows Vista (Ultimate / Enterprise / Business / Home Premium / Home Basic), 32/64-bits edition Windows XP (Professional / Home Edition), 32/64-bits edition Mac OS X (10.5.8 to 10.8)				
Compatible Standards	UL60950-1 / cUL / CE mark (Low voltage & EMC) / KC mark (Low voltage & EMC) FCC-A / EN55022-A / VCCI-A				

*1 Operated with Graphtec specified cutting condition and the media.
*2 Information of compatibility of OS or application software, please refer other page of this document or check the Graphtec website.
Note: specifications are subject to change without notices.

Accessories

Item		Description	Quantity
Power cord		The type of cord is different by destination	1 cable
Cutter blade holder		PHP33-CB09N-HS	1 set
Cutter blade		CB09UB	1 blade
Fiber-tip pen holder		PHP31-FIBER	1 set
Water-based fiber-tip pen		KF700-BK (black ink) (For reorder, LUMOCOLOR-311-BLK)	1 pen
Stand		Parts kit of stand (Assembled by the customer)	1 set
Media stocker		Set of stock rollers and mounting brackets (Installed to the stand, assembled by the customer)	1 set
Basket	PG0039	Parts kit for FC8600-60 (Assembled by the customer)	1 set
	PG0040	Parts kit for FC8600-75 (Assembled by the customer)	
	PG0041	Parts kit for FC8600-100 (Assembled by the customer)	
	PG0042	Parts kit for FC8600-130 (Assembled by the customer)	
	PG0043	Parts kit for FC8600-160 (Assembled by the customer)	
USB cable		USB cable 2.9m long, CBL1112ACL2-2.9M	1 cable
DVD-ROM		User manual (PDF format)	1 piece
		Windows driver OPS662	
		Plotter controller OPS676	
		Design software Graphtec Studio (Win/Mac)	
		Plug-in software Cutting Master 3 for Adobe Illustrator (Win/Mac) and CorelDRAW (Win)	
Manuals		Quick start, and safety guide	2

Options

Model number	Description
RSK0020	Multi-media stocker for FC8600-60 (1 set of stock rollers and mounting brackets)
RSK0021	Multi-media stocker for FC8600-75 (1 set of stock rollers and mounting brackets)
RSK0022	Multi-media stocker for FC8600-100 (1 set of stock rollers and mounting brackets)
RSK0023	Multi-media stocker for FC8600-130 (1 set of stock rollers and mounting brackets)
RSK0024	Multi-media stocker for FC8600-160 (1 set of stock rollers and mounting brackets)
ECK0009	2nd Tool Holder option install kit (Distributor installed option)
OPH-A21	Flange for FC8600
OPH-A22	Additional push roller install kit (Distributor installed option)

Supplies

Model number		Description	Package
Cutter blade holder	PHP33-CB09N-HS	For 0.9mm dia. blade (tip of holder is plastic)	1 set/pack
	PHP33-CB15N-HS	For 1.5mm dia. blade (tip of holder is plastic)	1 set/pack
	PHP35-CB09-HS	For 0.9mm dia. blade (tip of holder is metal)	1 set/pack
	PHP35-CB15-HS	For 1.5mm dia. blade (tip of holder is metal)	1 set/pack
Cutter blade	CB09UB-5	0.9mm dia., 45º angle, super-steel blade	5 blades/pack
	CB09UB-K60-5	0.9mm dia., 60º angle, for cutting thin film	5 blades/pack
	CB15U-5	1.5mm dia., 45º angle, super-steel blade	5 blades/pack
	CB15U-K30-5	1.5mm dia., 30º angle, for cutting sandblast rubber sheet	5 blades/pack
	CB15U-K20-2SP	1.5mm dia., 20º angle, for cutting sandblast rubber sheet	2 blades/pack
	CB15UA-5	1.5mm dia., 45º angle, for cutting high insensitive reflective film	5 blades/pack
	CB15UA-K30-5	1.5mm dia., 30º angle, for cutting high insensitive reflective film	5 blades/pack
	CB15UB-2	1.5mm dia., 45º angle, for cutting small letter	2 blades/pack
Cross-cutter blade	CT01H	High speed steel (standard type)	1 blade/pack
	CT02U	Super-steel (high durability type)	1 blade/pack
Fiber-tip pen holder	PHP31-FIBER	For KF700 series pen	1 set/pack
Water-based fiber-tip pen	LUMOCOLOR-311-BLK	Black ink	10 pens/pack
	LUMOCOLOR-311-RED	Red ink	10 pens/pack
	LUMOCOLOR-311-BLU	Blue ink	10 pens/pack
Ballpoint pen holder	PHP34-BALL	For KB700 pen	1 set/pack
Oil-based ballpoint pen	KB700-BK	Black ink	10 pens/pack
Pouncing tool	PPA33-TP12	Pouncing hole, 1.2mm dia.	1 tool/pack

FC8600 Dimensions

FC8600-60/-75/-100/-130/-160

Width:
FC8600-60: 1128mm (44.5in.)
FC8600-75: 1278mm (50.4in.)
FC8600-100:1578mm (62.2in.)
FC8600-130:1878mm (74.0in.)
FC8600-160:2138mm (84.2in.)

Height: (common for all sizes)
1219mm (48.0in.)

Depth: (common for all sizes)
715mm (28.2in.)
Note: the basket is not extended.

Unit: mm (in.)
Tolerance: +/-5mm (0.2in.)

FC8600 Packaging

Model	FC8600-60	FC8600-75	FC8600-100	FC8600-130	FC8600-160	Stand ST0083 for FC8600
Packaging	Corrugated cardboard box (with printing)	Corrugated cardboard box (with printing)	Corrugated cardboard box (with printing)	Corrugated cardboard box (with printing)	Corrugated cardboard box (with printing)	Corrugated cardboard box (with printing)
Size [W x H x D] mm (in.)	1328 x 611 x 452 (52.3 x 24.1 x 17.8)	1478 x 611 x 452 (58.2 x 24.1 x 17.8)	1778 x 611 x 452 (70.0 x 24.1 x 17.8)	2078 x 611 x 452 (81.9 x 24.1 x 17.8)	2338 x 611 x 452 (92.1 x 24.1 x 17.8)	880 x 225 x 260 (34.7 x 8.9 x 10.3)
Gross weight	38 kg (83.8 lb)	42 kg (92.6 lb)	50 kg (110.3 lb)	58 kg (127.9 lb)	63 kg (138.9 lb)	10 kg (22.0 lb)
Number of stacking (Storage in warehouse)	Max. 3 stacks	Max. 3 stacks	Max. 3 stacks	Max. 3 stacks	Max. 3 stacks	Max. 6 stacks
Number of stacking (Containerized transportation)	Max. 5 stacks	Max. 5 stacks	Max. 5 stacks	Max. 5 stacks	Max. 5 stacks	Max. 6 stacks

Stand package: side legs of stand are packed. The center bar of stand and parts for basket are contained in the main unit.